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Agricultural Transportation Challenges for the 21st Century

Infrastructure Improvements by International Competitors

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Issue

Leading competitors of the United States in international grain markets are making major improvements in their transportation systems. These improvements are most noticeable in South America and China. Improvements in the transportation systems in these countries will directly affect the competitiveness of U.S. agricultural products in world markets.

Background

In the global marketplace, U.S. agricultural producers have long enjoyed lower transport costs between the production regions and ports than most of our agricultural rivals. This has allowed the United States to export grains and other agricultural products — even though much U.S. production occurs in the interior of North America, far from the site of the export terminals. However, transportation improvements by U.S. competitors may erode this competitive advantage. For U.S. competitors, lower inland transportation costs will raise producer returns, leading to expanded production. For the U.S. producers, these improvements suggest that the export market will become much more competitive.

Infrastructure advances that will benefit bulk agricultural exports are being made most rapidly in Latin American countries. For instance, Argentina has recently completed several transportation projects, including a $650 million dredging project on the Paraná River that allows larger ocean-going vessels access to its export elevators. This channel improvement project, coupled with port privatization, has lowered the cost of Argentine grain in world markets. Argentina has recently started several other dredging projects. These new projects will deepen the Paraná's main navigation channel to 34 feet, allowing Cape-size maritime to take on heavier loads, and will extend the deep-water navigation channel through the sand bar at the mouth of the Rio de la Plata.

In addition to channel improvements for ocean-going vessels, Argentina is spending tens-of-millions of dollars on its inland river system for moving agricultural and other commodities. It has even made investments in the inland navigation systems in neighboring countries. An example of this is the dredging of the Tamengo channel in Bolivia, which will allow Bolivian soybeans to be shipped by barge to Argentine crushing facilities. Realizing the business opportunities available in

Argentina, the largest U.S. barge line, American Commercial Barge Lines (ACBL), has opened operations in South America. In just over 2 years, ACBL has become the largest barge line in South America and has transformed the towing industry in that area of the world. Using towboats and barges transferred from the Mississippi River, ACBL is now running16-barge tows as far north as Corumba, Brazil. Other South American barge lines are navigating the Paraguay River an additional 500 miles to Caceres, Brazil. This additional navigation is expected to reduce transportation costs enough to trigger an additional 14 million metric tons of soybean production in the Mato Grosso region of Brazil.

Argentine and multinational grain companies are constructing facilities to receive waterborne grain shipments from these waterways. This expansion is most noticeable in the soybean crushing industry. Grain companies plan to bring in soybeans from Argentina, Paraguay, Bolivia, and Brazil; process the soybeans; and then export the meal and oil.

In addition to improvements in its waterways, the Argentine Government has privatized railroad operations in Argentina. While railroad privatization in Argentina has resulted in reduced rail costs and improved services, it is expected to have a limited impact on Argentina's export competitiveness. The vast majority of Argentine grain shipped from farms and interior elevators to export locations moves by truck because of the proximity of the Argentine production areas to ports.

Brazil has also privatized rail operations. Unlike Argentina, however, privatization of the railroads in Brazil has improved and will continue to improve the ability of Brazil to export soybeans. In fact, existing rail lines in Brazil are already beginning to take soybean traffic away from trucks. A privately financed new Brazilian railroad, the "Ferro Norte," is also planned. This new 2,486 mile railroad would connect the soy production regions of Grias and Mato Grosso with the Atlantic ports of Santos and Paranagua. Additional rail lines will connect this production region with Santarem on the Amazon River.

Brazil has also made major investments in its navigable waterways. These investments include navigation on the Paraguay River connecting Mato Grosso do Sul with export and crushing facilities in Argentina. Other projects are being constructed or are planned on the Paraná and Tete Rivers, which will also connect through Argentine river ports. Currently, soybeans produced in Amazonas, Rondonia, and Mato Grosso are trucked to Porto Velho and then barged 600 miles to the Port of Itacoatiara on the Amazon River. Barge service also is available on another tributary of the Amazon, the Madeira River. Finally, the Brazilian Government has also announced plans to spend $183 million to construct dams on the Rio das Mortes and Rio Araguaia. These dams will open yet another waterway for Brazilian soybeans produced in the interior to move to Atlantic ports. Currently, the majority of Brazilian soybeans is either moved by truck to ports, or crushed locally with the soy products moved by truck to the ports. Truck rates from Mato Grosso to the Atlantic ports are estimated to be as high as $70 per ton.

Brazil is also privatizing and making improvements to its ports. For example, new grain-loading equipment is being installed at the ports of Paranagua and Santos. In addition, the Brazilians have made investments in floating export elevators on the Amazon River. Although these elevators are

approximately 600 miles inland, they are capable of loading Panamax-sized vessels.

China, another main competitor to the United States in world corn markets, is also making improvements in its infrastructure with World Bank loans. China is the second largest producer of corn in the world and has been a major corn exporter during the 1990's. Because of China's proximity to the major Asian corn markets of Japan, South Korea, Indonesia, and Malaysia, Chinese corn exports to these countries have routinely displaced corn imports from the United States.

In 1993, China received a $490 million loan/grant from the World Bank to upgrade ports and internal grain handling systems. Some of this money has been invested in port infrastructure in southern and southeastern China. These improvements could work to the advantage of the United States, since most grain imports enter through southern China. However, this project also includes improvements to the ports of Dalian and Yingkou, which are China's primary ports for exporting corn. Finally, the Chinese are upgrading the grain collection and transportation shipment system in northeastern China, which is a major area for Chinese corn production. Increased transportation efficiencies and adaptation of more advanced production technology could lead to increased corn production and exports from that area of China.

Implications

Increased grain production is probable in both South America and China. Increased soybean production and exports are likely to stem from greater transportation efficiencies in Brazil, Paraguay, and Bolivia. Argentine soybean expansion will most likely be driven by improved and more efficient inland transportation capacities and the higher returns arising from an expanded crushing industry. Growth in corn production in Argentina and China will be dependent upon increased fertilization and technological adaptation. As inland transport costs fall, producer returns will increase and additional acreage will be planted. The key question is how this will affect the competitiveness of U.S. grains in world markets. Without a doubt, the transportation advances in these countries will reduce the competitive advantage U.S. grain producers have had in transportation and distribution over competitors in world markets.

Information Sources

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